Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Office of Secretary Of Defense

R-1 ITEM NOMENCLATURE

0400: Research, Development, Test & Evaluation, Defense-Wide

PE 0603122D8Z: Combating Terrorism Technology Support

BA 3: Advanced Technology Development (ATD)

APPROPRIATION/BUDGET ACTIVITY

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	124.901	85.299	77.019	-	77.019	89.298	90.622	92.051	94.671	Continuing	Continuing
484: Combating Terrorism Technology Support (CTTS)	124.901	85.299	77.019	-	77.019	89.298	90.622	92.051	94.671	Continuing	Continuing

### A. Mission Description and Budget Item Justification

The Combating Terrorism Technical Support (CTTS) program develops and delivers capabilities that address needs and requirements with direct operational application in the national effort to combat terrorism. Projects are distributed among 10 mission categories: Advanced Analytics and Capabilities, Chemical, Biological, Radiological, and Nuclear Countermeasures; Explosives Detection; Improvised Device Defeat; Investigative Support and Forensics; Personnel Protection, Physical Security; Surveillance, Collection, and Operations Support; Tactical Operations Support; and Training Technology Development. This program is a diverse, advanced technology development effort that capitalizes on interagency and international participation to demonstrate the utility or effectiveness of technology when applied to combating terrorism requirements. It includes technology capability development, proof-of-principle demonstrations in field applications, and coordination to transition from development to operational use.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	81.868	85.299	87.124	-	87.124
Current President's Budget	124.901	85.299	77.019	-	77.019
Total Adjustments	43.033	-	-10.105	-	-10.105
<ul> <li>Congressional General Reductions</li> </ul>		-			
Congressional Directed Reductions		-			
Congressional Rescissions	_	-			
<ul> <li>Congressional Adds</li> </ul>		-			
<ul> <li>Congressional Directed Transfers</li> </ul>		-			
Reprogrammings	10.000	_			
SBIR/STTR Transfer	-2.129	_			
Other Adjustments	-1.078	-	-10.000	-	-10.000
Congressional Adds	36.240	-	-	-	-
Economic Assumptions	-	-	-0.105	-	-0.105

# Congressional Add Details (\$ in Millions, and Includes General Reductions)

**Project:** 484: Combating Terrorism Technology Support (CTTS)

Congressional Add: Full Scale Impact and Blast Loading Laboratory Testing Program

Congressional Add: Improved LAS Glass-Ceramic Laminated Amored Window Systems

FY 2010	FY 2011
-	-
-	-

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APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 3: Advanced Technology Development (ATD)	R-1 ITEM NOMENCLATURE PE 0603122D8Z: Combating Terrorism Technology Sup	pport	
Congressional Add Details (\$ in Millions, and Includes Ge	neral Reductions)	FY 2010	FY 2011
Congressional Add: Machine Augmented Composite Armo	or	-	-
Congressional Add: Validation of an Enhanced Urban Air	Blast Tool	-	-
Congressional Add: Bioterriorism Operations Policy for Pu	ıblic Emergency Response (BOPPER)	1.000	-
Congressional Add: Robotic Mobility Platform System		-	-
Congressional Add: Port and Hull Securtiy 3D, Real Time	Sonar System Echoscope	-	-
Congressional Add: Tactical Biometric Operating and Surv	veillance system (TBOSS)	-	-
Congressional Add: Biometric Terrorist Watch-List Databa	se Management Development	-	-
Congressional Add: Covert Sensing and Tagging System	(CSTS)	1.200	-
Congressional Add: Document and Media Search and Dis	scovery (DMSD)	-	-
Congressional Add: EDIT Technology for Counter-Tunnel	Operations and Cache Detection	-	-
Congressional Add: Facial Recognition Technology Initiati	ve	-	-
Congressional Add: Remote Sensor Network Services Pla	atform	-	-
Congressional Add: Low Cost Stabilized Turret		0.800	-
Congressional Add: Roll-on Roll off Reconnassanice, Sur	veillance & Special Mission Palletized System	-	-
Congressional Add: Ultra Portable Unmanned Surveillanc	e Helicopter	-	-
Congressional Add: Unmanned Aerial Vehicle Avionics Up	ograde (UAVAU)	-	-
Congressional Add: SOF Unattended Sensor Network		-	-
Congressional Add: Radio Inter-Operability System (RIOS	5)	1.600	-
Congressional Add: CTTSO/STAR-TEC Partnership Progr	ram	-	-
Congressional Add: Facility Security Using Tactical Survey	ys	3.600	-
Congressional Add: Military/Law Enforcement Countertern	rorism Test Bed	2.400	-
Congressional Add: Affordable Robust Mid-Sized Unmann	ned Ground Vehicle	1.600	-
Congressional Add: Comprehensive and Integrated Proce	dures for Risk Assessment and Resource Allocation	2.000	-
Congressional Add: Integrated Rugged Checkpoint Conta	iner	2.000	
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Congressional Add: Ultra Low Profile EARS Gunshot Localization System

Congressional Add: Remote VBIED Dection and Defeat System

1.200

1.200

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Congressional Add Details (\$ in Millions, and Includes General Reductions)	FY 2010	FY 2011
Congressional Add: Dynamic Data Flow Management System	1.600	-
Congressional Add: Emergency Egress System	1.600	-
Congressional Add: Expeditionary Surveillance and Reconnaissance Program	4.000	-
Congressional Add: IdentClarity-Identity Resolution	1.440	-
Congressional Add: MARCENT Thermal Imaging Suite	3.000	-
Congressional Add: Omni Directinal Relay and Conformal Antenna	2.500	-
Congressional Add: Reconnaissance and Data Exploitation (REX) System	3.500	-
Congressional Add Subtotals for Project: 484	36.240	-
Congressional Add Totals for all Projects	36.240	-

### **Change Summary Explanation**

In the last week of FY 2010 CTTSO received a Department JUON (Joint Urgent Operational Needs) reprogramming (+\$10M) to rapidly develop of ADVANCED ANALYTICS AND CONCEPTS program required for forces in Afghanistan.

The FY 2012 baseline budget was reduced by -\$10M due to higher priorities within the Department. CTTSO will continue to assess and prioritize combating terrorism and counterinsurgeny priorities and reallocate funds due to this unexpected reduction. The \$10M reduction will decrease the S&T efforts to rapidly prototype across all nine sub group programs but primarily in the Physical Security S&T efforts (-15%); Surveillance, Collection, and Operations support program (-15%); and the Tactical Operations Subgroup (-9.7%)

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012
Title: CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR COUNTERMEASURES	5.857	7.297	6.817
FY 2010 Accomplishments:  Evaluated performance of a pathogen- and puncture-resistant glove for military and law enforcement tactical operations.  Operationally tested a tactical response boot with integrated chemical protection. Tested and evaluated an air supply pass through kit for Level A chemical protective ensembles. Developed test protocol for special-needs populations escape hoods. Tested and evaluated an advanced small-room chemical and biological filtration system. Tested and evaluated an advanced adsorbent material to capture gaseous chemical threat agents. Optimized, tested, and evaluated a software decision support tool for determination of chemical agent filter life. Developed tools for providing enhanced protection with the M53 tactical respiratory mask. Operationally tested the hydration status monitor. Developed a stand-off patient triage tool for evaluating patient viability. Developed and test a three-dimensional tracking and locating tool. Developed an orthogonal detection system for identifying toxic			

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012
industrial chemicals and chemical warfare agents. Tested and evaluated a total organic carbon detector for water utility systems. Developed a standardized test method for the evaluating the effects of Electronic Countermeasures (ECM) on commercially available detectors. Developed a detection kit for homemade explosive precursor materials. Developed a best practices field guide for mail screening and handling.			
PY 2011 Plans:  Design new protective garments providing percutaneous protection against evolving threats. Perform heat stress studies on Class 3 CBRN protective ensembles. Develop next generation systems for both respiratory and collective protection. Develop noise cancelling technology for enhanced communications while wearing an self contained breathing apparatus. Evaluate a pocket-size, low-profile escape respirator for operational needs and test to the European standards. Develop a desalination filter for rending estuary waters potable. Develop a person portable mass spectrometer with gas chromatograph inlet for the rapid detection and identification of target chemicals. Evaluate systems for detection of non-traditional agents. Evaluate the effects of ECM on commercially available detectors. Test and evaluate a new orthogonal detection system against toxic industrial chemical challenges. Test and evaluate a detection kit for homemade explosive precursor materials. Develop a risk-based decision support model for skin decontamination following dermal exposures. Develop tools for the decontamination of traditional and non-traditional agents from personnel and equipment. Field a best practices guidebook for mail screening and handling.			
FY 2012 Plans:  Develop next generation systems for both respiratory and collective protection. Develop enhanced testing procedures for the evaluation of protective ensembles. Test and evaluate inconspicuous protective garments against evolving threats. Develop, test and field protective ensembles providing enhanced chembio protection in tactical environments. Operationally test and evaluate a desalination filter for military field survival situations. Evaluate tools for the decontamination of infrastructure, personnel, and equipment. Field an orthogonal system for the detection and identification of toxic industrial chemicals. Test and evaluate a person portable mass spectrometer with gas chromatograph inlet for the rapid detection and identification of target chemicals. Test and evaluate solid oxidant materials for field decontamination methods.			
Title: Concept Developement	-	-	-
Description: Moved to Personnel Protection subgroup.			
FY 2010 Accomplishments: Moved to Personnel Protection subgroup			
FY 2011 Plans:			
Moved to Personnel Protection subgroup			
Title: EXPLOSIVES DETECTION	7.286	8.004	7.408

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012
FY 2010 Accomplishments:  Developed active illumination upgrade to imaging and anomaly detect by-side evaluation of sensors for suicide bomber detection. Evaluated technology for standoff detection. Investigated spectra of chemical consignatures of components for database. Tested and evaluated vehicle wet chemical detection kits for explosive precursors. Demonstrated for	d sub millimeter wave imaging and anomaly detection ompounds related to the presence of explosives or physical le X-ray system. Demonstrated feasibility of expeditionary			
FY 2011 Plans: Incorporate fusion and detection algorithms, synchronize electronics, to imaging and anomaly detection system. Develop breadboard sub-Incorporate spectra of explosive signatures into existing databases. It kits for explosives precursor detection. Fabricate and test a walkthrough	millimeter wave imaging and anomaly detection system.  Fabricate and assess prototype expeditionary wet chemical			
FY 2012 Plans: Incorporate unique explosive spectra into a prototype detection system system. Continue development of systems for sub-millimeter wave in assess prototype expeditionary wet chemical kits for explosives precupersonnel for explosive threats at temporary venues.	naging of personnel for explosive detection. Fabricate and			
Title: IMPROVISED DEVICE DEFEAT		4.878	5.901	5.610
FY 2010 Accomplishments: Fielded, and tested a robotically deployed JAUS compliant visual and camera system to COTS and integrate with EOD robotic platforms. OVBIED countercharges and disruptors for population of the Decision Smanipulation tool kit for IED interrogation. Upgraded, tested, and eval IEDs. Developed an instant IED notification system. Field-tested and employed Single-Sided X-ray Imaging System. Developed advance and employment of EOD-peculiar equipment. Developed and field a interchangeable end effectors for use on robotic arms. Evaluated em threats to aid in the development, design, and testing of next generations.	Conducted explosive tool characterization of select IED/ Support Tool Characterization Guide. Developed a manual luated currently fielded ECM systems for the neutralization of d evaluated the Body Bomb Tool Kit. Tested the robotically power solutions for conducting sustained robotics operations camera blinding system for special operations. Developed erging remote control improvised explosive device (RCIED)			
FY 2011 Plans:  Design, and develop next generation ECM-related equipment. Incorp employed Single-Sided X-ray Imaging System. Conduct explosive to for population of the Tool Characterization Guide. Develop an enhance	ol characterization of select IED/VBIED disruption charges			

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012
terrorist devices. Develop advance detection and diagnostic tools for Field-test, and evaluate ECM tools and equipment to counter emergin neutralization of surface, subsurface, and underwater explosive threa Tool. Develop tools and methods to neutralize homemade explosive access tool kit. Evaluate the camera blinder prototype. Test the Sing	ng RCIED threats. Develop tools and equipment for the its. Develop a VBIED Precision Identification and Disruption s. Field-test, and evaluate the robotically deployed VBIED			
FY 2012 Plans: Incorporate unique explosive spectra into a prototype detection syste system. Continue development of systems for sub-millimeter wave in Fabricate and assess prototype expeditionary wet chemical kits for exquickly screen personnel for explosive threats at temporary venues.	naging of personnel and vehicles for explosive detection.			
Title: INFRASTRUCTURE PROTECTION		-	-	-
FY 2010 Accomplishments: Moved to Physical Security.				
<b>FY 2011 Plans:</b> N/A				
Title: INVESTIGATIVE SUPPORT AND FORENSICS		3.747	4.585	4.431
FY 2010 Accomplishments: Fielded improved questioned document analysis techniques for analycollection from forensic evidence research. Fielded advance interviews hortcomings within deployment, training, and training aids for militarycollecting hidden computer data. Fielded automated credibility assessmeasurement system. Fielded canines for detection of suicide bomb	w techniques based on cognitive load principles. Identified y working dogs. Distributed an automated system for sment procedures. Delivered a thermal imaging polygraph			
FY 2011 Plans: Distribute a trace explosive materials reference and pocket guide. Fi Produce advanced techniques for efficient direct interpersonal credib technologies. Evaluate the efficiency and accuracy of facial expressi system. Field a combating terrorism and reliability assessment tool. I examination reference system. Distribute soil location identification s and comparison for use between theater and U.Sbased labs.	ility assessments. Distribute advanced computer forensic on credibility systems. Deliver a canine-borne surveillance Establish an online accessible forensic video player			
FY 2012 Plans:				

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012
Characterize EOD Disruptors fired against HME. Develop next general characterization of IED/VBIED counter charges and update the Tool OD Diagnostics and Defeat Kit for Special Operating Forces. Develop equand equipment for the neutralization of surface, subsurface, and under expanded Body Bomb Tool Kit for robotic employment. Study dress of	Characterization Guide. Deliver the Miniaturized IED uipment to counter emerging RCIED threats. Develop tools erwater explosive threats. Deliver and commercialize the			
Title: PHYSICAL SECURITY		12.018	14.712	12.330
FY 2010 Accomplishments: Improved and develop decision aids to assist with pre-event, prevents design standards based on results from threat-based test programs. better understand impact on facades, street furniture, tunnels, and inf Developed deployable, tactical and integrated security system concelequipment that is usable by security forces in high threat operations. international requirements to address the adaptive threat associated and research data. Developed capabilities to detect, locate, survey, a to include harbor and port security solutions	Continued test program in an urban environment to rastructure. Characterized homemade explosive mixes. ots. Test and compare prescreening and surveillance Developed a database that meets interagency and with homemade explosives based on past characterization			
FY 2011 Plans:  Deploy decision aids to assist with pre-event, preventative planning. solutions for temporary, semi-permanent or permanent facilities. Cooragencies for increased force protection. Expand test program in an ultiple of soft structures. Complete construction of a facility for iterative testing Deploy deployable, tactical and integrated security system concepts. techniques. Deploy a comprehensive homemade explosives database capabilities to detect, locate, survey, and disrupt subterranean operate solutions.	rdinate design standards with appropriate government urban environment to include novel explosives and effects and of equipment and tactics, techniques, and procedures. Develop enhanced video assessment and tracking se with multiple levels of access. Deploy and integrate			
Demonstrate a system that provides night vision capabilities to auster assessments, field training, and operational support that satisfy urger an integrated suite of ruggedized screening technologies.				
FY 2012 Plans: Continue test program in an urban environment using modular configunderstand impact of fixed urban structures on blast wave propagation				

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012
first responder personnel in predictive analysis in an urban environment techniques. Continue to populate a comprehensive homemade explositest and evaluate a next generation SWIR for use in tactical environme for covert emplacement and enhanced tracking of potential illegal activity observation system and a sensor alarm system in one for semi-covert	ves database with multiple levels of access. Operationally ints. Field test a portable persistent surveillance system ity. Transition a security system that contains a camera			
Title: BUSINESS OPERATIONS		14.901	9.780	8.983
<b>Description:</b> Formerly named Program Management.				
Provided program management oversight and technical support for CT management of international cooperative R&D programs. Established will reinforce interagency participation for the identification and prioritizal program, planning and execution for projects and associated contracts revise existing process and execution plans for CTTS mission area material Provide program management oversight and technical support for CTT management of international cooperative R&D programs. Establish go reinforce interagency participation for the identification and prioritization planning and execution for projects and associated contracts using direct existing process and execution plans for CTTS mission area management	goals, objectives, and immediate revisions to plans that ation of CTTS mission area requirements. Directed the using direct and indirect budget allocations. Reviewed and nagement and reporting responsibilities.  S R&D projects including funds from other agencies and als, objectives, and immediate revisions to plans that will n of CTTS mission area requirements. Direct the program, ect and indirect budget allocations. Review and revise			
FY 2012 Plans: Provide program management oversight and technical support for CTT management of international cooperative R&D programs. Manage the program, planning and execution for projects and associated contracts effective management support tools to improve efficiencies. Review armission area management and reporting responsibilities. Increase organical management and reporting responsibilities.	S R&D projects including funds from other agencies and business execution of the CTTS Program. Direct the using direct and indirect budget allocations. Provide nd revised existing process and execution plans for CTTS			
Title: SURVEILLANCE, COLLECTION AND OPERATIONS SUPPORT	-	12.240	14.595	12.356
FY 2010 Accomplishments: Enhanced various technologies for precise geolocation of targets of interior infrastructure including development of smart tags that can alert preset				

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of collected Cellular exploitation micro-electronic device exploitation especially in languages of particular interest. Developed exfiltration capabilities for real-time audio and video surveillance.			
FY 2011 Plans:  Adapt and integrate existing foreign language applications, practices, and tools into a tactical site exploitation capability. Improve the timely collection of intelligence and evidence to support follow-on targeting, effective detainee prosecution, and theaterwide exploitation of tactical intelligence. Enhance the capability to identify targets through biometric modalities. Streamline the processes of data collection, sharing, identity management, mobile identification and detection of targets of interest. Develop enhanced capabilities, force structures, and training programs to leverage Information Operations capabilities			
FY 2012 Plans: Field technical surveillance capabilities. Improve operational tactics, techniques, and procedures used by military working dog teams. Deploy expeditious foreign language analytical tools in support of tactical exploitation. Enhance research and technology to assist analysts with biometric intelligence and reporting. Develop advanced Information Operations applications, practices, and tools. Evaluate methods of improving intelligence, surveillance, and reconnaissance technologies in Unmanned Aerial Systems.			
Title: TACTICAL OPERATIONS SUPPORT	7.405	8.049	7.445
PY 2010 Accomplishments:  Developed an integrated, handheld device that combines a COTS GPS receiver, a standard military Blue Force Tracker and Combat Survivor/Evader Locator radio for use during evasion of enemy forces or contingency operations. Developed an ultralightweight UAS payload with cooled IR, color CCD, laser pointer and laser designator for UAS applications. Developed a persistent real-time surveillance system that will have an integrated power supply (72 hrs live streaming) and SATCOM/Cellular data-link connection. Developed a system that provides a self-healing, ad hoc mesh air-to-ground network for the transmission of real-time communications (voice and data). Developed a comprehensive reference source to summarize the performance characteristics of the available and proven breaching methods, tools, and tactics as they apply to the maritime environment. Developed a time-activated restraint and release system to temporarily restrain potential threat individuals for a predetermined period of time. Developed a backlit wrist worn compass that allows the end user to easily view cardinal directions whether in a well-lit or dark environment. Developed a fully integrated helmet using advanced materials that is capable of withstanding NIJ Level IIIA body armor ballistic threats as well as bodily damage against blast, fragmentation, and blunt trauma threats. Developed an internal frame load bearing system that provides the wearer with a system that easily accepts standard hard and soft armor plates, distributes the weight of the armor and load evenly throughout the body, and does not restrict any normal body movements. Developed a mortar targeting system with an integrated Fire Control System that provides rapid firing solutions and translates that to auto-laying of either a 120mm or 81mm US standard mortar tubes. Developed a point of instruction and			

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provide new equipment for special operations forces to enhance advanced marksmanship at ranges up to 600 meters. Developed a small, affordable imaging device capable of extracting object depth information along with a video stream of scenes. Delivered a portable system of wireless infrared illuminators with motion sensors to enhance site security for tactical forces. Delivered an optical voice and data communications system that attaches to a sniper optical device for use during tactical operations.			
Pevelop a lightweight, compact personal IR emitter capability for emplacement on a person's helmet or outermost garment. Develop a training aid to improve a soldier's trigger control, resulting in better shooting proficiency and shorter training time. Develop and deliver an ultra-mobile tactical computer for use by ground forces. Deliver an integrated, handheld device that combines a COTS GPS receiver, a standard military Blue Force Tracker and Combat Survivor/Evader Locator radio for use during evasion of enemy forces or contingency operations. Deliver an ultra-lightweight UAS payload with cooled IR, color CCD, laser pointer and laser designator for UAS applications. Deliver a persistent real-time surveillance system that will have an integrated power supply (72 hrs live streaming) and SATCOM/Cellular data-link connection. Deliver a system that provides a self-healing, ad hoc mesh air-to-ground network for the transmission of real-time communications (voice and data). Deliver a comprehensive reference source to summarize the performance characteristics of the available and proven breaching methods, tools, and tactics as they apply to the maritime environment. Deliver a time-activated restraint and release system to temporarily restrain potential threat individuals for a predetermined period of time. Deliver a backlit wrist worn compass that allows the end user to easily view cardinal directions whether in a well-lit or dark environment. Deliver a fully integrated helmet using advanced materials that is capable of withstanding NIJ Level IIIA body armor ballistic threats as well as bodily damage against blast, fragmentation, and blunt trauma threats. Deliver an internal frame load bearing system that provides the wearer with a system that easily accepts standard hard and soft armor plates, distributes the weight of the armor and load evenly throughout the body, and does not restrict any normal body movements. Deliver systems for the exploitation of commercial electronics, communications and computing for special			
FY 2012 Plans:  Develop an upper receiver group that provides significant suppression of both sound and flash from the current US standard M4 carbine. Develop a handheld intelligence, surveillance, target acquisition, reconnaissance system. Develop a single-man portable, collapsible-wing tactical unmanned aerial system with a secure mobile ad-hoc network data-link that is capable of being hand-launched in a man-portable canister. Develop a communication system that allows Tactical Operations Centers to send and receive large amounts of data from front-line operators in real-time. Develop a system that will alert a commander as to the			

status of his deployed sniper teams. Deliver a lightweight, compact personal IR emitter capability for emplacement on a person's

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012
helmet or outermost garment. Deliver a training aid to improve a soldi and shorter training time.	er's trigger control, resulting in better shooting proficiency			
Title: TRAINING TECHNOLOGY DEVELOPMENT		3.854	4.322	4.190
FY 2010 Accomplishments:  Developed adaptive, artificial intelligent crowd models to train warfigh disaster management, emergency evacuation, rescue operations, urbif" scenarios, and evaluate contingency plans. Designed and develop accurately mimics the form and functionality of the actual weapon systemironment with realistic scenarios. Developed a virtual live-fire sim conditions of a long, known distance range complex and an urban entitle.	panized conflicts, etc.), formulate strategies, answer "what- o a simulator for the M134 Minigun weapon system that stem, and integrate the simulator into a simulated training culation housed in a container that can duplicate the			
FY 2011 Plans:  Design and develop a training package that includes instructor-led tra observer and his squad to access Close Air Support (CAS). Develo scenarios to provide realistic consequences for a simulated IED or Exarchitectures and Web 2.0 technologies and develop job aids, conten	p a user reloadable device that can be used during training colosively Formed Penetrator. Analyze mobile learning			
FY 2012 Plans:  Design and develop a training package, including computer-based training on the topic of counter tunnel investigations. Analyze, design, and desimplementation of the Shareable Content Object Reference Model. Endevices (IEDs) effects training capability for use in a live, virtual, and assessment study of existing commercial, military, interagency, and in Design, develop, and evaluate a training aid to improve soldier's trigg	evelop best practices for the military community on the Design and develop an enhanced improvised explosive constructive (LVC) training environment. Conduct an international Homemade Explosives (HME) training courses.			
Title: Personnel Protection		7.075	8.054	7.449
Description: Formerly named VIP Protection				
FY 2010 Accomplishments:  Tested and deployed the ruggedized VIP security kit for indoor/outdoor and overseas performance of the high-risk personnel tracking and local training system for incorporation into an existing law enforcement training Demonstrated performance of the advanced methodologies and auto Tested the post-event gunfire analysis tool against audio files of known	eating device. Developed a protective services portal ning course and a stand-alone portal for use in the field. mated analytical tools on counterintelligence data sets.			

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012
pre-launch detection for operational evaluation. Installed the networked veh response vehicles and evaluate monitoring and alerting capabilities. Demons standalone window. Developed a personal security vulnerability assessmen aiding in determining need, scope and size of required protection. Research thresholds using the canine physiology, apply the developed criteria to devel a tool to assess total body deformation during a low rate loading event.	nstrated the effectiveness of window tinting system in a nt (PSVA) software tool to facilitate PSVA development hed and developed behind armor blunt trauma injury			
Per 2011 Plans:  Deploy the protective services portal training system at federal law enforcement protective services portal. Deploy the PSVA tool on a government sponsore Test and certify the canine armor system for use by military working dogs. In analysis in the development of protective solutions for vehicles, ships, and be capabilities of alternative fuel vehicles. Develop a novel multi-threat conceals system in an armored passenger vehicle and assess improvements in inform accuracy. Develop a new test device to determine behind armor blunt traum personnel tracking and locating system domestically and overseas. Research limit, to reduce behind armor blunt trauma injuries.  Deliver a tactical survey system for managing crisis situations and improving installations. Deliver a program of instruction that enables tactical operators operations. Deliver a low-profile gunshot localization system that will enhance tactical forces.	ed site for use by all government protective details. Incorporate the total body deformation tool and buildings. Test and validate the emergency response lable body armor system. Install the window tinting mation security and reduction in focused attack ma of body armor systems. Deploy the high-risk rich and develop a new limit for the backface signature g emergency response and preparations at critical to develop and sustain human networks for enduring			
FY 2012 Plans: Test and certify the canine armor system for use by military working dogs. D at federal law enforcement training centers and deploy the stand-alone prote deformation tool and analysis in the development of protective solutions for to enhance situational awareness, intelligence collection capabilities, and performance of multi-threat concealable body armor. Develop a system for the backface signature limit research to a new injury standard for the evaluation that captures, records, encrypts, and streams multi-channel video as	ective services portal. Incorporate the total body vehicles, ships, and buildings. Deploy systems ersonnel recovery efforts. Test and validate the vehicle protection in crowds. Incorporate the result luation of body armor. Develop a mobile surveillance			
Title: Advanced Analytics and Concepts		9.400	-	
<b>Description:</b> New Sub-group developed based on reprogramming action.				

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Office of Secretary Of Defense

APPROPRIATION/BUDGET ACTIVITY

0400: Research, Development, Test & Evaluation, Defense-Wide

R-1 ITEM NOMENCLATURE

PE 0603122D8Z: Combating Terrorism Technology Support

BA 3: Advanced Technology Development (ATD)

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012
FY 2010 Accomplishments: FY 2010 Accomplishments: New program being developed using FY10 Reprogramming Funds. Funds received the first week of October.			
FY 2011 Plans: Develop and apply new models and tools that improve "sense-making" from complex data streams. Develop, apply, and deploy analytic platforms and tools that fuse a variety of data sources, tools, and models (including socio-cultural dynamic models) into advanced analytical systems used by interagency Intel and operational communities at the strategic, operational, and tactical levels. Support sustained tactical operations through development and fielding of enhanced layered defensive capabilities by anticipating and avoiding threats through understanding the cyber situation, anticipating adversarial actions, assessing potential impacts, and by implementing defensive methodologies. Develop interagency tactical solutions not addressed in national cyber-defense programs Develop field-capable technologies that enable training and/or mission rehearsal of adaptive skills that includes cultural understanding, interpersonal communication, and teamwork while effectively utilizing state-of-the-art advanced analytic systems.			
Accomplishments/Planned Programs Subtotals	88.661	85.299	77.019

	FY 2010	FY 2011
Congressional Add: Full Scale Impact and Blast Loading Laboratory Testing Program	-	-
FY 2010 Accomplishments: N/A		
Congressional Add: Improved LAS Glass-Ceramic Laminated Amored Window Systems	-	-
FY 2010 Accomplishments: N/A		
Congressional Add: Machine Augmented Composite Armor	-	-
FY 2010 Accomplishments: N/A		
Congressional Add: Validation of an Enhanced Urban Air Blast Tool	-	-
FY 2010 Accomplishments: N/A		
Congressional Add: Bioterriorism Operations Policy for Public Emergency Response (BOPPER)	1.000	-
<b>FY 2010 Accomplishments:</b> Continued effort in method development and testing in support of bioterrorism operations and public health preparedness.		
Congressional Add: Robotic Mobility Platform System	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Office of Secretary Of Defense DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE

0400: Research, Development, Test & Evaluation, Defense-Wide

BA 3: Advanced Technology Development (ATD)

PE 0603122D8Z: Combating Terrorism Technology Support

	FY 2010	FY 201
FY 2010 Accomplishments: N/A		
Congressional Add: Port and Hull Securtiy 3D, Real Time Sonar System Echoscope	-	
FY 2010 Accomplishments: N/A		
Congressional Add: Tactical Biometric Operating and Surveillance system (TBOSS)	-	-
FY 2010 Accomplishments: N/A		
Congressional Add: Biometric Terrorist Watch-List Database Management Development	-	
FY 2010 Accomplishments: N/A		
Congressional Add: Covert Sensing and Tagging System (CSTS)	1.200	
<b>FY 2010 Accomplishments:</b> Continued effort to developed data fusion algorithms to improve detection automation and classification performance for tagging system.		
Congressional Add: Document and Media Search and Discovery (DMSD)	-	
FY 2010 Accomplishments: N/A		
Congressional Add: EDIT Technology for Counter-Tunnel Operations and Cache Detection	-	
FY 2010 Accomplishments: N/A		
Congressional Add: Facial Recognition Technology Initiative	-	
FY 2010 Accomplishments: N/A		
Congressional Add: Remote Sensor Network Services Platform	-	
FY 2010 Accomplishments: N/A		
Congressional Add: Low Cost Stabilized Turret	0.800	
<b>FY 2010 Accomplishments:</b> Continued effort to provide light weight, low cost solutions for airborne autonomous surveillance systems.		
Congressional Add: Roll-on Roll off Reconnassanice, Surveillance & Special Mission Palletized System	-	
FY 2010 Accomplishments: N/A		
Congressional Add: Ultra Portable Unmanned Surveillance Helicopter	_	

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Office of Secretary Of Defense

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APPROPRIATION/BUDGET ACTIVITY R-1 ITEM

R-1 ITEM NOMENCLATURE

0400: Research, Development, Test & Evaluation, Defense-Wide

PE 0603122D8Z: Combating Terrorism Technology Support

BA 3: Advanced Technology Development (ATD)

	FY 2010	FY 201
FY 2010 Accomplishments: N/A		
Congressional Add: Unmanned Aerial Vehicle Avionics Upgrade (UAVAU)	-	
FY 2010 Accomplishments: N/A		
Congressional Add: SOF Unattended Sensor Network	-	
FY 2010 Accomplishments: N/A		
Congressional Add: Radio Inter-Operability System (RIOS)	1.600	
<b>FY 2010 Accomplishments:</b> Continued effort to developed a capability to provide radio gateways between military and civilian communications centers.		
Congressional Add: CTTSO/STAR-TEC Partnership Program	-	
FY 2010 Accomplishments: N/A		
Congressional Add: Facility Security Using Tactical Surveys	3.600	
<b>FY 2010 Accomplishments:</b> Developed a tactical survey system for managing crisis situations and improving emergency response and preparations at critical installations. Develop a program of instruction that enables tactical operators to develop and sustain human networks for enduring operations. Developed a low-profile gunshot localization system that will enhance the situational awareness and survivability of tactical forces.		
Congressional Add: Military/Law Enforcement Counterterrorism Test Bed	2.400	
<b>FY 2010 Accomplishments:</b> Continued efforts in improved surveillance, detection, and use of Law Enforcement Capabilities to enhance the nation's law enforcement and military and counter-terrorism capabilities.		
Congressional Add: Affordable Robust Mid-Sized Unmanned Ground Vehicle	1.600	
FY 2010 Accomplishments: New program that is being developed in the Improvised Device Defeat Sub-group		
Congressional Add: Comprehensive and Integrated Procedures for Risk Assessment and Resource Allocation	2.000	
FY 2010 Accomplishments: New program that is being is just being developed for execution in late FY 2010.		
Congressional Add: Integrated Rugged Checkpoint Container	2.000	
FY 2010 Accomplishments: New program that is being developed in the Tactical Operations Support Subgroup		
Congressional Add: Ultra Low Profile EARS Gunshot Localization System	1.200	

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APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

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PE 0603122D8Z: Combating Terrorism Technology Support

BA 3: Advanced Technology Development (ATD)

	FY 2010	FY 2011
FY 2010 Accomplishments: New program that is being developed in the Tactical Operations Support Subgroup		
Congressional Add: Remote VBIED Dection and Defeat System	1.200	
FY 2010 Accomplishments: New program that is being developed in the Improvised Device Defeat Sub-group		
Congressional Add: Dynamic Data Flow Management System	1.600	
<b>FY 2010 Accomplishments:</b> New program that is being developed in the Surveillance, Collection and Operations Support Sub-group.		
Congressional Add: Emergency Egress System	1.600	
FY 2010 Accomplishments: New program that is being developed in the Personnel Protection Sub-Group		
Congressional Add: Expeditionary Surveillance and Reconnaissance Program	4.000	
<b>FY 2010 Accomplishments:</b> New program that is being developed in the Surveillance, Collection and Operations Support Sub-group.		
Congressional Add: IdentClarity-Identity Resolution	1.440	-
<b>FY 2010 Accomplishments:</b> New program that is being developed in the Surveillance, Collection and Operations Support Sub-group.		
Congressional Add: MARCENT Thermal Imaging Suite	3.000	
<b>FY 2010 Accomplishments:</b> New program that is being developed in the Surveillance, Collection and Operations Support Sub-group.		
Congressional Add: Omni Directinal Relay and Conformal Antenna	2.500	-
<b>FY 2010 Accomplishments:</b> New program that is being developed in the Surveillance, Collection and Operations Support Sub-group.		
Congressional Add: Reconnaissance and Data Exploitation (REX) System	3.500	
<b>FY 2010 Accomplishments:</b> New program that is being developed in the Surveillance, Collection and Operations Support Sub-group.		
Congressional Adds Subtotals	36.240	

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#### APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

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### D. Other Program Funding Summary (\$ in Millions)

N/A

# E. Acquisition Strategy

Not applicable for this item.

#### **F. Performance Metrics**

Long Term Strategies: Obtain adequate funding to support critical shortfalls; prioritize proposals that are deemed acceptable and allocate funding accordingly; establish outreach programs with the interagency to leverage institutional knowledge and expertise; utilize cooperative research and development (R&D) agreements with the United Kingdom, Canada, Israel, Singapore, and Australia to leverage technology investments.

Performance Indicator and Rating:

#### FY 2010 Target:

70% of currently funded research projects are completed on time 5% increase in the number of projects transitioning to operational use Continue full R&D programs with existing and new foreign partners

Verification: The CTTS Program utilizes a database to track the status of the projects. Quarterly program reviews are conducted to assess project status. In addition, an annual report is produced that assesses the status of current projects and the ability to accept new projects.

Validation: Completed research products increase the capabilities of the DoD to effectively detect, deter, and defend against terrorist attacks; thus the Departments personnel and interests at home and abroad are safer from terrorism.

# FY 2011 Target:

70% of currently funded research projects are completed on time 5% increase in the number of projects transitioning to operational use Continue full R&D programs with five existing foreign partners

Verification: The CTTS Program utilizes a database to track the status of the projects. Quarterly program reviews are conducted to assess project status. In addition, an annual report is produced that assesses the status of current projects and the ability to accept new projects.

Validation: Completed research products increase the capabilities of the DoD to effectively detect, deter, and defend against terrorist attacks; thus the Departments personnel and interests at home and abroad are safer from terrorism.